

IT IS DESIRED TO CLAIM AND SECURE BY LETTERS PATENT:

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5 1. A multi-element, modular building system comprising plural, selected, modular building components, including components such as (1) panels, (2) selected, related support structures therefor, and (3) other components, and

10 plural, selected interconnect structures operatively associated with said building components, and operable to interconnect the same reversibly and selectively in different patterns of connection to form an overall building which can be viewed as an interconnected matrix of space-defining, potentially load-bearing components,

15 at least certain ones of said interconnect structures, when (1) in operative conditions interconnecting adjacent building components that are distributed substantially throughout such an overall building, and (2) when responding to the influence of ambient temperature change, and/or to an externally applied load, 20 intentionally accommodating limited ranges of relative angular and/or translational motion between such interconnected adjacent components as a specific reaction to such a change and/or load, with such relative motion occurring within such ranges, and being characterized (1) by dwell periods of load-transmission between different pairs of adjacent interconnected components, (2) by changes in actual relative positions between interconnected elements as a whole, and (3) by effective, reversible, bidirectional enlargement and shrinking of the building as a whole.

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2. A modular building system comprising plural, interconnectable, modular building components, and interconnect structures, including relative-motion-accommodating interconnect structures, operatively interconnecting selected ones of said building components into a ground-supported, overall building which can be characterized as a matrix of space-defining, potentially load-bearing components,

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10 said relative-motion-accommodating interconnect structures operating adaptively, selectively and dynamically with respect to externally applied loads, and via the relative-motion accommodation accorded to selected, interconnected building components and interconnect structures, to create different, responsive load-bearing paths through the building matrix between the point of such external load application and the ground,

15 said interconnect structures creating such differing paths in direct relation to the type, level and direction of externally applied loads, and so as to establish each such created path through a specific collection of building components and interconnect structures that are distributed between the point of load application and the ground, and between which, along said path, relative motion in response to a load has come to a stop.

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3. A modular building system comprising
building components organized to form a ground-supported, overall building,
and
interconnect structures operatively associated with, and interconnecting, said
5 building components, operable, with the application of an external load, and in direct
response to the specific and instantaneous characteristics of such a load, to create a
related, specific, load-bearing path through the building between the point of load
application and the ground.

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4. A modular building system comprising
building components organized to form an overall building, at least some of
which components are intended to carry (through the building) loads that are related
to different externally applied loads, and

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interconnect structures operatively interconnecting said components, and
capable of defining variably, and for different specific externally applied loads, which
ones of said components will form parts in a reaction, load-bearing path between the
point of external load application and the ground,

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said interconnect structures thus effectively holding to a minimum the overall
time (during the life of a building) that certain ones of said components and
interconnect structure operate as parts of such a reaction path.

5. The system of claims 1, 2, 3 or 4, wherein at least certain ones of said
25 building components and interconnect structures are relatively positionally
interchangeable in a building.

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6. The system of claims 1, 2, 3 or 4, wherein selected ones of said building components and interconnect structures include internal way/chase structure adapted to receive selected utility-carrying structures, such as for water, electricity, gas, heating, waste products, telephone, cable, etc.

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7. The system of claims 1, 2, 3 or 4, wherein at least certain ones of said building components and interconnect structure include pre-established, integral, interengageable connector elements.

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8. The system of claims 1, 2, 3 or 4, wherein at least certain ones of said building components and interconnect structures are formed of a polymeric material.

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9. The system of claim 8, wherein at least some of said at least certain ones of said building components and interconnect structures are formed by extrusion.

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10. The system of claim 6, wherein, within the confines of selected building components and interconnect structures, utilities are distributed outwardly therefrom generally in a manifold fashion.

11. The system of claims 1, 2, 3 or 4, wherein the overall building includes air-flow venturi structure which communicates between the inside and the outside of the building.

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12. The system of claims 1, 2, 3 or 4, wherein interlock integrity in certain regions in the overall building increases in response to certain applied external loads.

5 13. The system of claims 2, 3 or 4, wherein said building components include panels, and certain ones of said panels are organized in the building to carry load in tension.

10 14. The system of claims 1, 2, 3 or 4 which further includes elongate, twin-character, ground-engaging foundation structure which, as seen in long axial cross section, generally increases in lateral dimension progressing from the upper to the lower regions of that foundation structure, and wherein one of the twin-character elements includes a solid core, and the other includes different-material jacketing
15 structure disposed on laterally opposites of said core.

15 15. The system of claim 14, wherein said core is formed of concrete which has been poured into space originally defined by said jacketing structure, and said
20 jacketing structure takes the form of two generally planar, and angular, sheets of the mentioned different material.

25 16. The system of claim 15, wherein said sheets are formed of an extrusion-molded polymeric material.

30 17. A building formed of modular, interconnected building components designed to allow reversible increasing and decreasing of the overall size of the building in direct response to an applied external load.

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18. A modular building system in operative condition comprising a skeletal frame structure, and panel structures floatingly connected to said frame structure in such a manner that the transmission of certain loads between selected ones of said panel structures and said frame structure is adaptive and intermittent, and comes about in direct response to the nature and direction of an externally applied load.

19. A modular building system, in operative, assembled condition forming an overall building comprising a freely selected, operatively interconnected arrangement of plural, elongate frame elements, which elements generally define plural, substantially planar spaces that are at least partially perimetally bounded by an interconnected plurality of said elements, each adjacent pair of interconnected frame elements being interconnected in a manner which permits, within preselected bounding ranges, unrestrained overall relative motion, and plural, freely selected, generally planar spanner elements floatingly disposed in generally captured, but nevertheless range-bounded, relatively moveable, conditions within selected ones of said spaces.

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20. The system of claim 19, wherein interconnected frame elements, and captured spanner elements, interact with one another (where connectively adjacent) through connections which are formed generally by elongate, slidingly and operatively interengaged, elongate, confronting, receptive-channel and received-flange structures.

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21. The system of claims 1, 2, 3 or 4, wherein the mentioned building components, when assembled into an overall building, collectively constitute superstructure, and which further comprises foundation structure including plural foundation elements that fit together with telescopically inserted and received element portions, and wherein further, at each angular corner of the overall building, said foundation elements include a rigidly pre-angled element having elongate, angularly intersecting runs which reside at a committed and defining corner angle that operates in the overall building to hold and stabilize the angle at which superstructure components meet at the relevant corner of the building.

22. The system of claims 1, 2, 3 or 4 which further includes foundation structure that optionally, and where needed, includes an elongate vertically adjustable foot structure including a lower, broad-area, configurationally-adaptable footing expanse which is selectively engageable with a protrusion, such as the upper portion of a rock (or the like), that underlies the foundation structure.

23. The system of claim 22, wherein said footing expanse takes the form of a downwardly-facing cluster of elongate, elastomeric tentacles.

24. The system of claims 1, 2, 3 or 4 which further includes water-containing reservoir structure locatable adjacent the foundation of an overall building, and positioned in, and integrated with respect to, the building to furnish cooperative operational structure selected from the group consisting of (1) a source of water connected to plumbing in the building that forms part of a fire-suppression system, (2) a heat-sink for aiding in controlling temperature in a selected region or regions in the building, and (3) a stabilizing foundation weight for a building of the kind largely supported substantially entirely on top of the underlying ground (i.e., without any significant foundation ground-penetration).

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25. The system of claims 1, 2, 3 or 4, wherein said building components include panel-like motion structures which are moveable selectively in a final, overall building to change, selectively, the effective character of a wall and/or roof expanse in the building.

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26. The system of claims 1, 2, 3 or 4 which further includes ground-engaging foundation structure with elongate stretches possessing vertically adjustable components employable for leveling the foundation structure as a whole.